

## CLAIMS

1. Torque control system for a parallel hybrid motor-driven engine group for motor vehicles, in which the hybrid motor-driven engine group includes an electric engine (1) and a heat engine (2) connected in rotation to a mechanical chain (3) adapted so as to allow the two engines to alternatively or simultaneously provide a drive force to the wheels (4) of the vehicle, characterized by the fact that it is comprised of:

- means (8) that determine the state of the vehicle;
- means (6) that manage the methods of operation of the hybrid motor-driven engine group and adapted to receive, at the input, a portion of the Boolean or non-Boolean information generated by the means (8) that determine the state of the vehicle;
- means (12) that assist the dynamic performance of the vehicle and adapted to receive, at the input, the other portion of the Boolean or non Boolean information generated by the means (8) that determine the state of the vehicle;
- means (7) that manage the electric power available to the vehicle;
- means (9) that determine the state of the motor-driven engine group;
- means (10) that constantly determine the total engine torque ( $C_m$ ) to be provided to the wheels of the vehicle, adapted to receive at the input the Boolean or non Boolean information generated by the means that manage and assist (6, 7, 12) and those generated by the means (9) that determine the state of the motor-driven engine group, while giving priority to those generated by the management and assistance means (6, 7, 12) in order to respectively control the torque ( $C_e$ ) of the electric engine (1) and the torque ( $C_t$ ) of the heat engine (2) based on the desired ( $C_e$ )/( $C_t$ ) ratio.

2. System as set forth in claim 1, characterized by the fact that it comprises a man/engine interface (11) adapted to receive at the input, the Boolean or non Boolean

F02V25/00, F02D25/00

information generated by the means (9) that determine the state of the motor-driven engine group and to provide in particular at the output, visual information to the driver thus allowing him to chose a method of operation of the motor-driven engine group.

- Sub A1*
3. System as set forth in any one of the previous claims, characterized by the fact that it is comprised of means (13) that cool the motor-driven engine group (1, 2), such as a fan, adapted to receive at the input at least a portion of the Boolean information generated by the means (9) that determine the state of the motor-driven engine group.
  4. System as set forth in any one of the previous claims, characterized by the fact that the electric engine (2) consists of an alternator and a starter.

06052001 12:16 3014388333